

ABSTRACT OF THE DISCLOSURE

A fast current-controlled polarization switching VCSEL with two independent intra-cavity p-contact electrodes and two independent intra-cavity n-contact electrodes positioned along the four sides of the symmetric aperture such that there are two independent p- and n-
5 contact pairs placed on opposite sides of the aperture in a non-overlapping configuration. The anisotropy resulting from the unidirectional current flow causes the light output to be polarized perpendicular to the direction of current flow. A VCSEL driver circuit switches the polarization state of the output light by using the two orthogonal pairs of non-overlapping intra-cavity contacted electrodes to change the direction of current flow into the VCSEL aperture by 90
10 degrees.